Computer DYNAMICS

Hardware User Guide

DisplayPac-OPR

Preliminary

Computer DYNAMICS

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This device complies with part 15 FCC rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class "a" digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

Warnings, Cautions, and Notes as Used in this Publication

Warning notices are used in this publication to emphasize that hazardous voltages, currents, temperatures, or other conditions that could cause personal injury exist in this equipment or may be associated with its use.

In situations where inattention could cause either personal injury or damage to equipment, a Warning notice is used.

Caution notices are used where equipment might be damaged if care is not taken.

Notes merely call attention to information that is especially significant to understanding and operating the equipment.

Important Safety Precautions

Warning

Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Caution

Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

- Please read these safety instructions carefully.
- Please keep this user's manual for later reference.
- Please disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning, use a damp cloth.
- For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
- Keep this equipment away from humidity.
- Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
- The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.
- Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
- Position the power cord so that people cannot step on it. Do not place anything over the power cord.
- All cautions and warnings on the equipment should be noted.
- If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
- Never pour any liquid into an opening. This could cause fire or electrical shock.
- Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
- If any of the following situations arises, get the equipment checked by service personnel:
    - The power cord or plug is damaged.
    - Liquid has penetrated into the equipment.
    - The equipment has been exposed to moisture.
    - The equipment does not work well, or you cannot get it to work according to the user's manual.
    - The equipment has been dropped and damaged.
    - The equipment has obvious signs of breakage.
- Do not leave this equipment in an uncontrolled environment where the storage temperature is below -20° C (-4° F) or above 60° C (140° F), as this may damage the equipment.

Unpacking

After unpacking the DisplayPac-OPR, check to ensure the following items are included and in good condition.

- 1x DisplayPac-OPR main system
- 1x External AC Power cord

Make sure all of the items listed above are present. If any of the above items is missing, contact your dealer immediately.

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1. Introduction

This chapter provides background information and detailed specification on the DisplayPac-OPR product.

1.1. General Information

The DisplayPac-OPR is a series of multimedia Intel® Core™ 2 Duo flat panel computers equipped with a 12.1", 15", 17", or 19" TFT LCD with touchscreen in an IP65 rated aluminum bezel. Designed to serve as a friendly human-machine-interface for easy integration into any space-constricted application, the DisplayPac-OPR features onboard graphics, audio, 10/100/1000 BaseT Ethernet and memory up to 4 GB DDR2 capacity.

1.2. Specifications

Product Name	DisplayPac-OPR
LCD Size	12.1", 15", 17", 19"
LCD Resolution	12.1" 800x600, 15" 1024x768, 17" 1280x1024, 19" 1280x1024
LCD Brightness	12.1" - 350 nits, 15" - 250 nits, 17" - 300 nits, 19" - 300 nits
Touch Screen	5-wire Resistive
Main Board	BI945IX
CPU Socket	Socket 478 for Intel Core Duo, Core 2 Duo, and 65nm Celeron M Processors
Chipset	Intel i82945GME + ICH7M Chipset
System Memory	2x 240-pin DDR2 up to 4GB
Drive bays	1 x HDD 3.5", 1x Slim CD-ROM/DVD-ROM Drive
Display	Integrated VGA/LCD Controller, 2D/3D GUI engine, sharing memory architecture up to 224 MB
Ethernet	2x 10/100/1000BaseT
Audio	Onboard AC'97 Audio Codec ALC203 (Line-out & MIC-in)
I/O Ports	3 x Serial (2 x RS232, 1x RS-232 / 422 / 485), +5V/12V power output on pin 9 1 x PS/2 Keyboard, 1 x PS/2 Mouse 8 x USB 2.0 (4 x back I/O, 2 x onboard, 2 x side I/O) 1 x VGA Interface for second display 1 x Line-out & 1 x MIC-in
Expansion Slot	2 x PCI
IDE Interface	1x ATA-100 44-pin box header with 5V pin out, 2.0 pitch
SATA	2 x SATA-II (300MB/s)
Keyboard / Mouse	1 x PS/2 Keyboard, 1 x PS/2 Mouse
Power	ATX 180W, 100 to 240VAC @ 50 to 60 Hz
Mounting	Panel mounted, VESA mounted
OS Support	Windows 2000, Windows XP
RoHS Construction	Heavy-Duty Steel (IP65)
Colors	White and Black
Safety & EMI	FCC, CE, NEMA 12
Front Bezel	Aluminum Bezel (standard),
Operating Temp	0° to +40°C
Storage Temp	-20° to +60°C
Operating Humidity	20% to 65% RH
Storage Humidity	10% to 90% RH

Chassis Dimensions

Aluminum Bezel

- 12.1" 448 x 371 x 100 mm (W x H x D), (bare bone)
- 15" 448 x 371 x100 mm (W x H x D), (bare bone)
- 17" 485.5 x 418 x 103 mm (W x H x D), (bare bone)
- 19" 524 x 448.5 x 106 mm (W x H x D), (bare bone)

Specifications are subject to revision or update without notice

1.3. Identifying the System

Before getting started, take a moment to familiarize yourself with the DisplayPac-OPR system and the I/O arrangement.

1.3.1. Front View

The DisplayPac-OPR front view appears as below. The illustrations of the DisplayPac-OPR may differ slightly due to the series' four LCD sizes: 12.1", 15", 17", and 19".

Figure 1: PAC-OPR Front View

1.3.2. Bottom (I/O) View

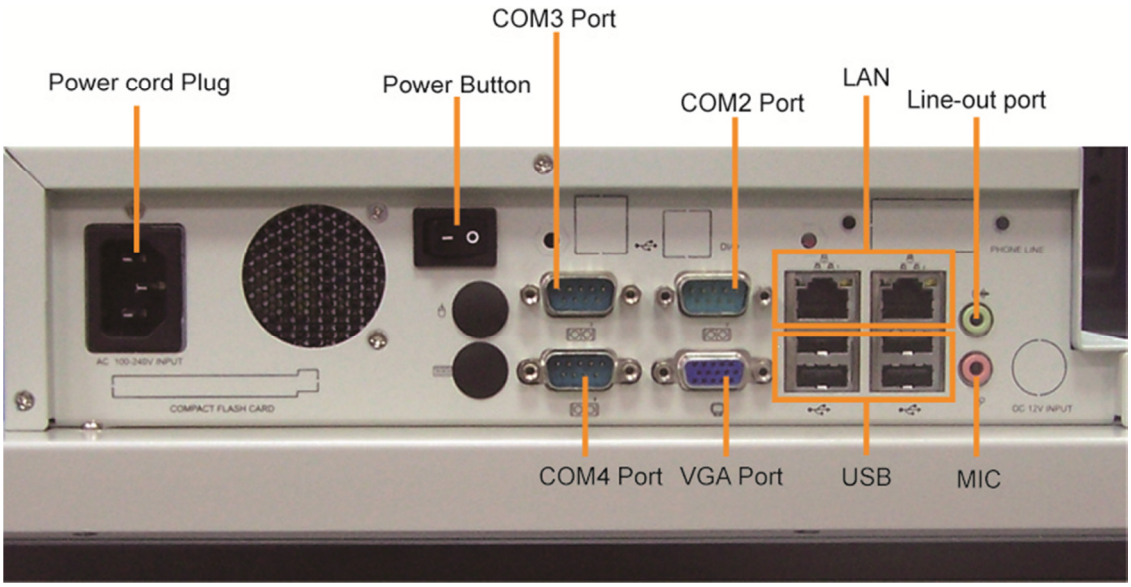


Figure 2: PAC-OPR Bottom (I/O) View

1.4. Diagrams

The next several pages show diagrams for the four sizes of the DisplayPAC-OPR products. Please refer to our website for our mechanical drawings.

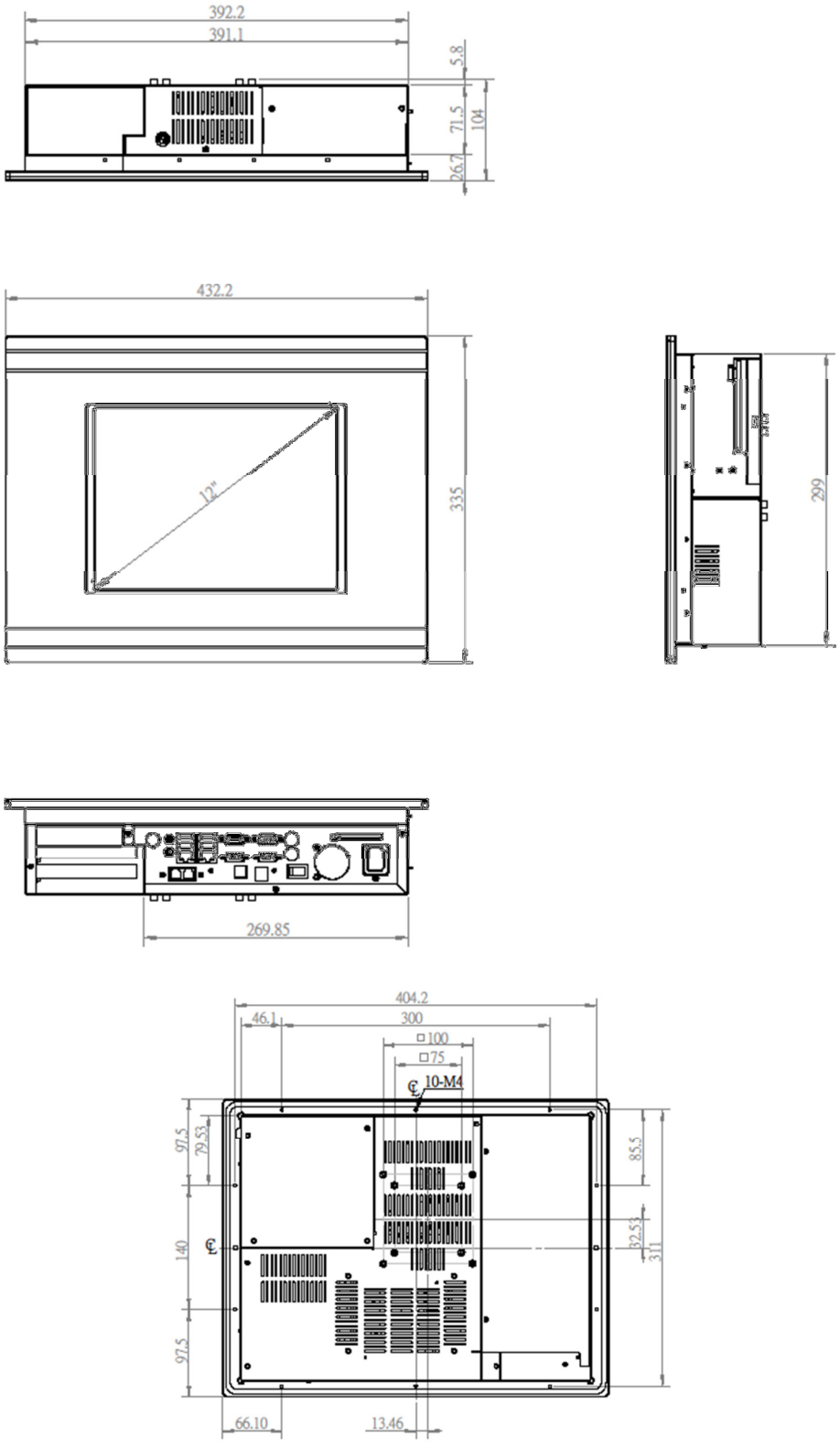


Figure 3: PAC-OPR12 Diagrams

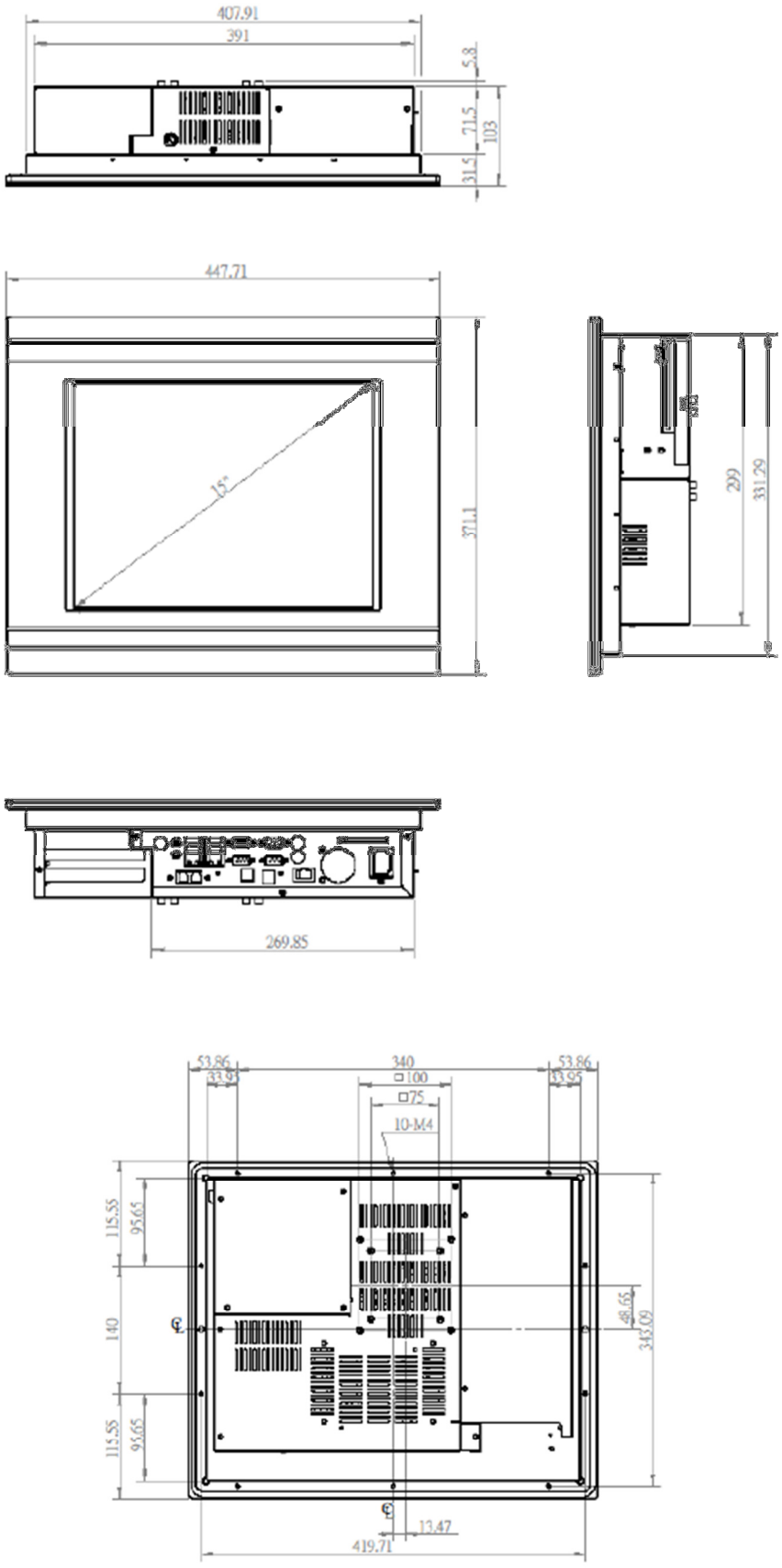


Figure 4: PAC-OPR15 Diagrams

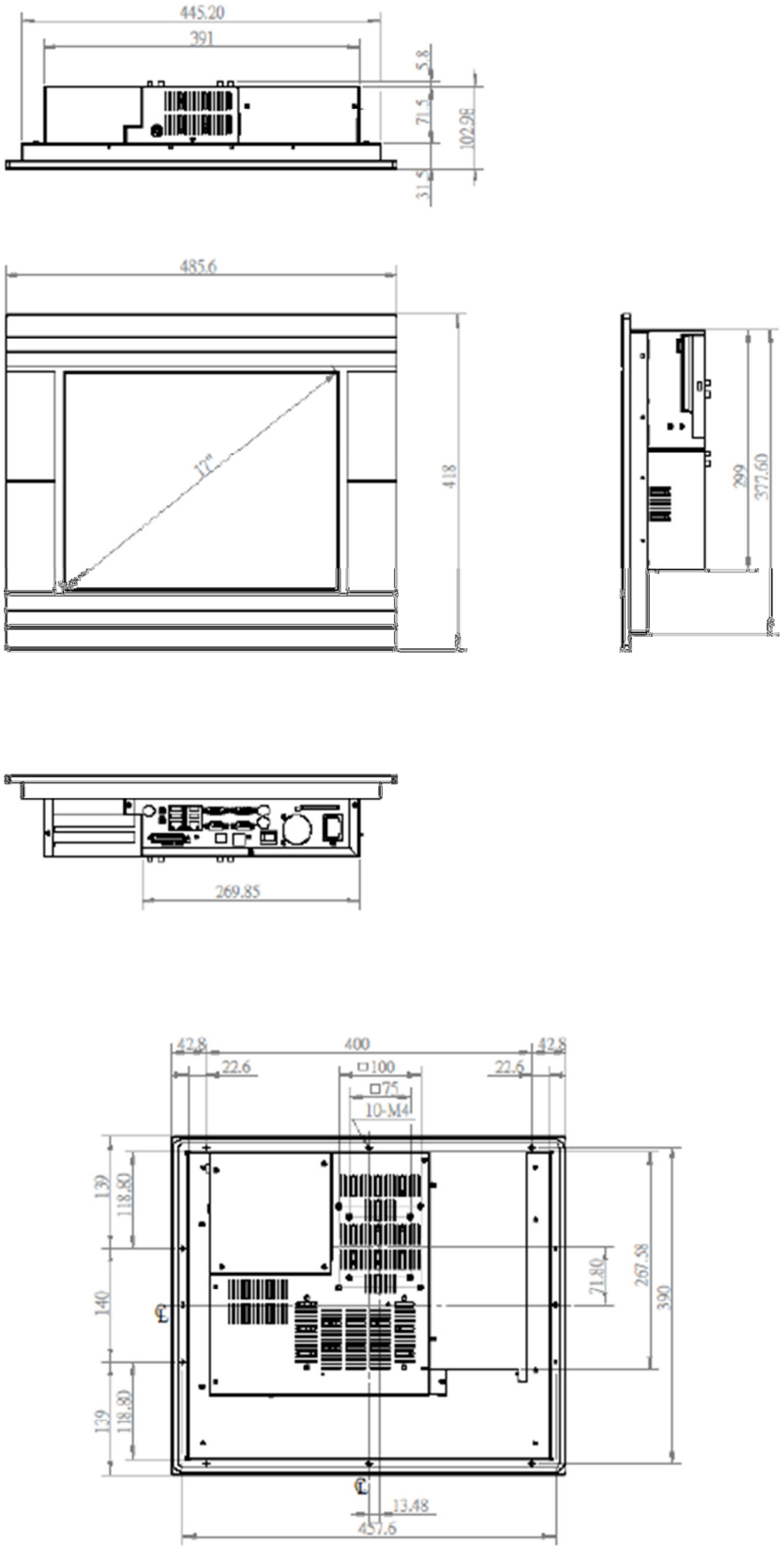


Figure 5: PAC-OPR17 Diagrams

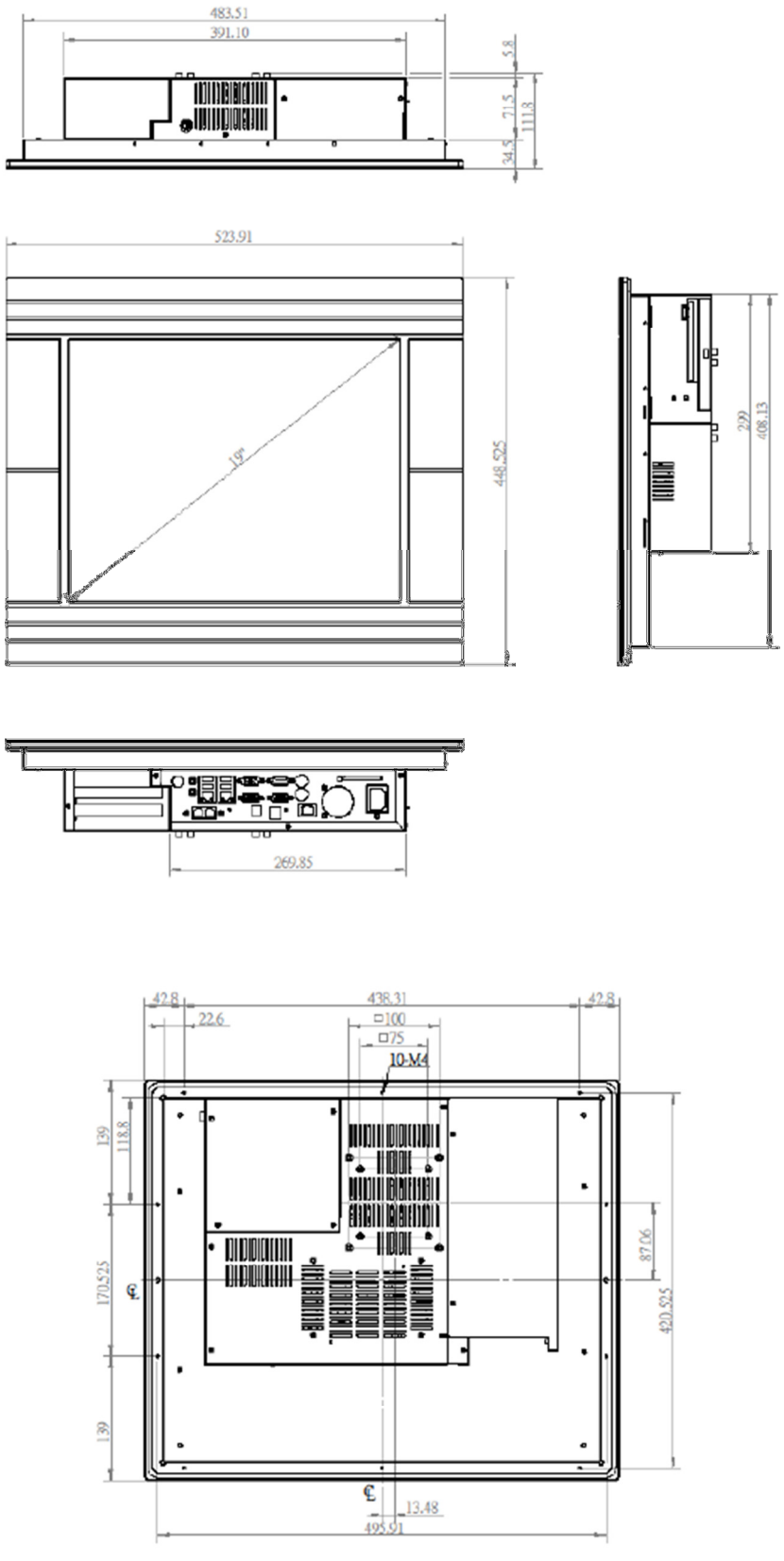


Figure 6: PAC-OPR19 Diagrams

2. Input/Output Connections

This chapter describes the DisplayPac-OPR system I/O connections.

The I/O interfaces are located on the DisplayPac-OPR IO ports panel.

Before connecting peripheral devices to the DisplayPac-OPR, shut down the system and turn off power to the peripheral devices, to minimize the risks of damage electrical charges (ESD).

2.1. USB 2.0 Ports

In the IO ports panel of the DisplayPac-OPR are four USB 2.0 480Mb/s for peripheral connectivity. Some USB devices require a driver to be installed prior to connecting the cable. When the driver is installed, simply plug-in the USB peripheral to the USB port for a connection.

Please note: if Windows XP is installed, XP Service Pack 1 or higher is required for Microsoft's latest USB 2.0 device support.

2.2. Serial / COM Ports

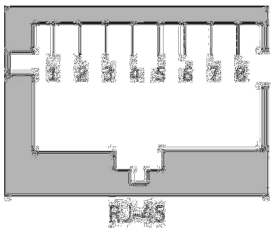
The DisplayPac-OPR features three Serial RS-232 COM ports on the IO ports panel ready to connect to a wide range of serial devices.

2.3. Dual Ethernet 10/100/1000 LAN (RJ-45)

The DisplayPac-OPR provides two 10/100/1000 Base-T compatible Ethernet (RJ-45) interface on the IO ports panel. To establish a network connection:

1. Turn off all power to the DisplayPac-OPR and external Ethernet
2. Plug in one end of CAT4/5/6 cable from a 10/100/1000 Base-T switching hub to the RJ-45 port
3. Turn the power on for both the DisplayPac-OPR and external Ethernet device for configuration of the networking parameters.

RJ-45 Ethernet Connector Pin Assignments:



Pin	Assignment
1	Tx+ (data transmission positive)
2	Tx- (data transmission negative)
3	Rx+ (data reception positive)
6	Rx- (data reception negative)
7, 8	Not in use

2.4. VGA Interface

The DisplayPac-OPR has a DSUB-15-pin analog VGA Monitor connector located in the IO ports panel. It supports CRT, LCD TFT and analog monitors. Be sure to install the appropriate video display drivers depending on the OS installed.

2.5. LPT Printer Port

The DisplayPac-OPR is equipped with a standard ECP/SPP selectable D-SUB 25pin printer port in the IO ports panel. Optional settings for the LPT port are available through the system BIOS.

2.6. Audio Interface (MIC / Spk-out / Line-in)

The audio interface is located within the IO ports panel, directly connected to the main board. Refer to figure 2-5 to locate the PC99 color-coded audio ports at the left side. Please note that the audio driver needs to be installed first before audio devices will function.

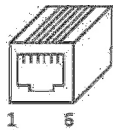
2.7. PCI Interface

Two expansion PCI slots are available from within the left side panel of the DisplayPac-OPR system. To access the PCI slots, remove the left side panel and carefully fit the PCI extension card into one of the two PCI slots.

2.8. DIO Port

The DisplayPac-OPR has one RJ-11 DIO connector located in the IO ports panel. When the DisplayPac-OPR is shut off, carefully plug-in the DIO cable connector to the DIO port.

RJ-11 DIO Cash Drawer Pin Assignments:



Pin	Assignment
1	D/IO_OUT1
2	D/IO_OUT0
3	D/IO_IN0
4	+12V
5	GND
6	D/IO_IN1

3. First Time System Setup

To set up the DisplayPac-OPR for the first time, you should have the following items ready. These items are either included in the accessory box or available from your local computer parts store.

- DisplayPac-OPR Utility CD (Included)
- Power cord (Included)
- PS/2, AT or USB Keyboard and Mouse (Not included)
- Operating System (OS) Installation CD (Optional)

3.1. Installing PCI Adapter Cards

The DisplayPac-OPR supports two expansion PCI adapter cards in an easy to access left side compartment. From the rear view of the DisplayPac-OPR, locate and remove the side panel screws.

3.2. Connecting External Peripherals

1. Prior to turning the power on, connect a USB keyboard and mouse to the USB ports.
2. Connect the female end of the power adapter cord to the AC inlet located on the bottom side of the DisplayPac-OPR.
3. Connect the male end of the power cord to an electrical outlet.

3.3. System BIOS Setup

The DisplayPac-OPR should be set up and configured for typical use. The Basic Input Output System (BIOS) setup program may need to be initiated under these following conditions:

- The system is starting and being configured for the first time with new components.
- The hardware devices attached to the DisplayPac-OPR system have been changed.
- The CMOS memory has lost power and the configuration information has been erased.

The BIOS setup program is stored in ROM, which can be accessed by pressing <DEL> key on the keyboard immediately when the system is powered on.

In order to retain the specified setup information when the system power turns off, the system setup information is stored in a battery-backed CMOS RAM. The battery saves the settings when the computer turns off or resets. When the computer powers on again, the system will read the settings stored in the CMOS RAM and compare them to the equipment check conducted during the power on self-test (POST). If any error or mismatch occurs, an error message will show on the screen and the computer will prompt to run the setup program.

3.4. Operating System and Driver Installation

The standard DisplayPac-OPR systems are purchased with an Operating System. If the system does not include a pre-installed OS and drivers or you intend to install your preferred one, you will need to load an OS and software into the system.

Use the DVD-ROM Drive to load an OS from a bootable CD. Recent releases of operating systems include setup programs that load automatically and guide you through the OS installation. You can also refer to your OS user manual for instructions on formatting or partitioning the hard disk drive before any software installation.

When the OS is completely installed, software drivers can be installed for the operating system and any connected peripherals.

4. Award BIOS Setup

This chapter describes how to set up the BIOS configuration.

4.1. Award BIOS

The Award BIOS setup program allows users to modify basic system configuration settings such as the current date and time, or the type of peripheral devices attached to the computer. Under the following conditions, the CMOS settings may need to be modified:

- The system is being setup for the first time
- Hardware devices attached to the system have changed
- The CMOS memory has lost power and the configuration information has been erased.

The BIOS setup program is stored in ROM, which can be accessed by immediately pressing <DEL> key on the keyboard when the system is powered on.

In order to retain BIOS setup information while the system power is turned off, the system setup information is stored in battery-powered CMOS RAM. The battery ensures the settings will not be erased when the computer is turned off or reset. When the computer is powered on again, the system will read the settings stored in the CMOS RAM and compare them to the equipment check conducted during the power on self-test (POST). If any error or mismatch occurs, an error message will display on the screen and the computer will be prompted to run the setup program.

4.2. Control Key Definition

Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item in the left position
Right arrow	Move to the item in the right position
ESC key	Main Menu - Quit without saving changes Status Page - Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
F1 key	General help, only for Status Page Setup Menu and Option Page Setup Menu
F2 key	Item Help
F3 key	Reserved
F4 key	Reserved
F5 key	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
F6 key	Load the Fail safe default CMOS value from BIOS default table, only for Option Page Setup Menu
F7 key	Load the Optimize default
F8 key	Reserved
F9 key	Reserved
F10 key	Save all the CMOS changes, only in Main Menu

4.3.

4.4. Getting Help

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Press <F1> to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window, press <ESC>.

4.5. Award BIOS Setup

4.5.1. Award BIOS Setup Main Menu

Power on the computer and immediately press <DEL> to run the AWARD BIOS setup. The setup main menu will appear:

Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features
Advanced BIOS Features
Advanced Chipset Features
Integrated Peripherals
Power Management Setup
PnP/PCI Configurations
PC Health Status
Frequency/Voltage Control
Load Fail-Safe Defaults
Load Optimized Defaults
Set Supervisor Password
Set User Password
Save & Exit Setup
Exit Without Saving
Esc : Quit F9 : Menu in BIOS ↑ ↓ → ← : Select Item
F10 : Save & Exit Setup
Time, Date, Hard Disk Type...

Use the arrow keys to move among the items and press <Enter> to enter the sub-menu.

STANDARD CMOS SETUP: This setup page includes all the items in standard compatible BIOS.

ADVANCED BIOS FEATURES: This setup page includes all the items of Award special enhanced features.

ADVANCED CHIPSET FEATURES: This setup page includes all the items of chipset special features.

INTEGRATED PERIPHERALS: This setup page includes all onboard peripherals.

POWER MANAGEMENT SETUP: This setup page includes all the items of Green function features.

PNP/PCI CONFIGURATION: This setup page includes all the configurations of PCI & PnP ISA resources.

PC HEALTH STATUS: This setup page auto detects the temperature, voltage and fan speed.

FREQUENCY/VOLTAGE CONTROL: This setup page includes the CPU/SDRAM/PCI frequency setting

LOAD FAIL-SAFE DEFAULTS: BIOS Defaults indicates the most appropriate value of the system parameters that the system would be in safe configuration.

LOAD OPTIMIZED DEFAULTS: Setup Defaults indicates the value of the system parameters that the system would be in the best performance configuration.

SET SUPERVISOR PASSWORD: Change, set, or disable the main administrator password. It allows you to limit access to the system and BIOS setup, or just to BIOS setup.

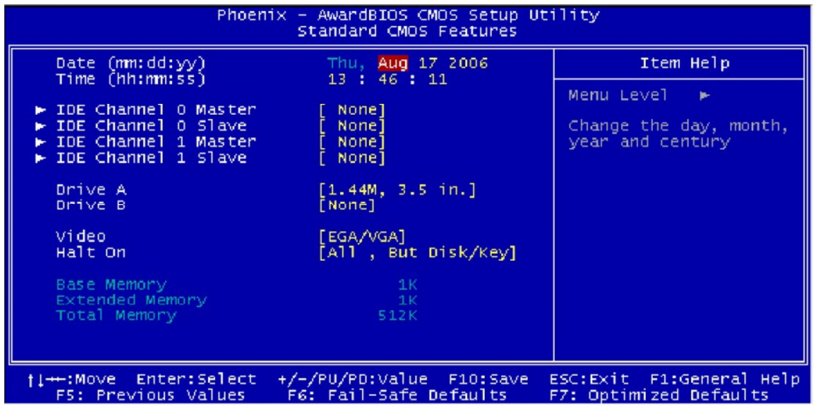
SET USER PASSWORD: Change, set, or disable a User's password. It allows you to set limited access rights to the system and BIOS setup, or just to BIOS setup.

SAVE & EXIT SETUP: Save CMOS value settings to CMOS and exit setup.

EXIT WITHOUT SAVING: Abandon all CMOS value changes and exit setup.

4.5.2. Standard CMOS Features

If the STANDARD CMOS FEATURE is selected from the main menu, the screen below will appear. This menu allows the users to configure the system components such as date, time, hard disk drive, floppy disk drive and display type. The system BIOS will automatically detect the memory size; therefore no setting is needed.


Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features
Date (mm:dd:yy) Thu, Aug 17 2006
Time (hh:mm:ss) 13 : 46 : 11
IDE Channel 0 Master [None]
IDE Channel 0 Slave [None]
IDE Channel 1 Master [None]
IDE Channel 1 Slave [None]
Drive A [1.44M, 3.5 in.]
Drive B [None]
Video [EGA/VGA]
Halt On [All , But Disk/Key]
Base Memory 1K
Extended Memory 1K
Total Memory 512K
Item Help
Menu Level ►
Change the day, month, year and century
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Date The date format is <Day>, <Month> <Date> <Year>.

Day	The day, from Sun to Sat, determined by the BIOS and is only for display
Month	The month, Jan. through Dec.
Date	The date, from 1 to 31
Year	The year, from 1994 through 2079

Time The times format in <hour> <minute> <second>. The time is calculated base on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

IDE Primary HDDs / Secondary HDDs

The categories identify the types of hard disk from drive C to F that have been installed in the computer. There are two types: auto type, and user definable type. User type is user-definable; Auto type will automatically detect HDD type(s).

Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category.

If you select User Type, related information will be asked to enter to the following items. Enter the information directly from the keyboard and press <Enter>. Such information should be provided in the documentation form your hard disk vendor or the system manufacturer.

CYLS.	Number of cylinders
HEADS	Number of heads
PRECOMP	Write precomp
LANDZONE	Landing zone
SECTORS	Number of sectors

If a hard disk has not been installed select NONE and press <Enter>.

Drive A type / Drive B type

The category identifies the types of floppy disk drive A or drive B that has been installed in the computer.

None	No floppy drive installed
360K, 5.25"	5.25 inch PC-type standard drive; 360K byte
1.2M, 5.25"	5.25 inch AT-type high-density drive; 1.2M byte (3.5 inch when 3 Mode is Enabled).
720K, 3.5"	3.5 inch double-sided drive; 720K byte
1.44M, 3.5"	3.5 inch double-sided drive; 1.44M byte
2.88M, 3.5"	3.5 inch double-sided drive; 2.88M byte

Video

The category selects the default video device

Options: EGA/VGA/CGA40/CGA80/Mono

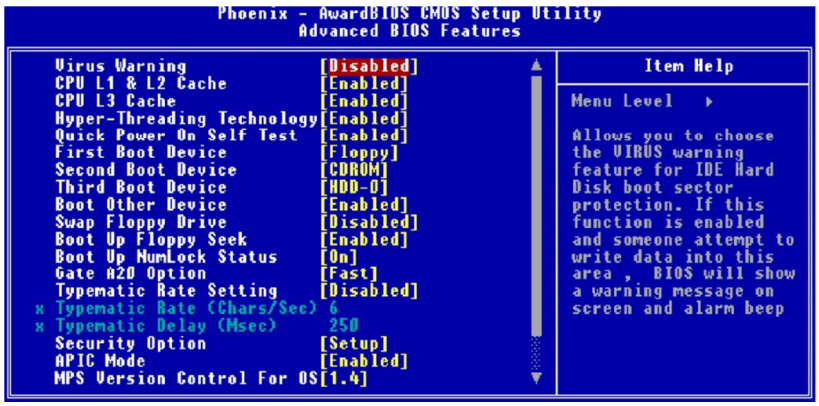
Halt on

The category determines whether the computer will stop if an error is detected during power up.

NO Errors	The system boot will not stop for any error that may be detected
All Errors	Whenever the BIOS detects a non-fatal error the system will be stopped and you will be prompted
All, But Keyboard	The system boot will not stop for a keyboard error; but will stop for all other errors
All, But Diskette	The system boot will not stop for a disk error; but will stop for all other errors
All, But Disk/Key	The system boot will not stop for a keyboard or disk error; but will stop for all other errors

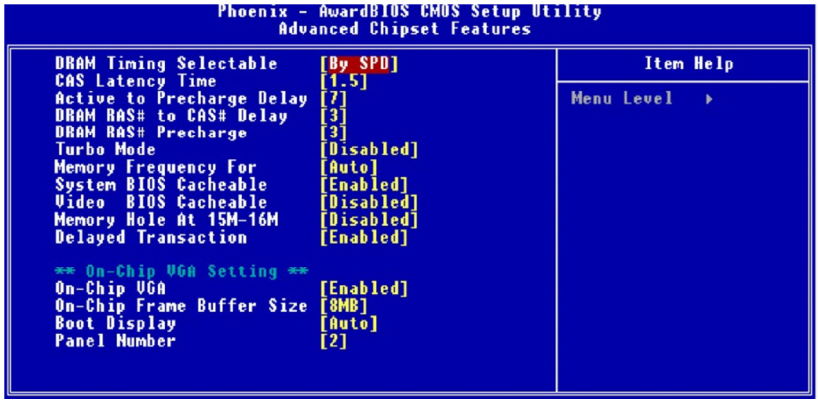
4.5.3. Advanced BIOS Features

If the ADVANCED BIOS FEATURES option is selected from the main menu, the screen below will appear. The following sample screen consists of the default values for the DisplayPac-OPR.


Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features
Virus Warning [Disabled]
CPU L1 & L2 Cache [Enabled]
CPU L3 Cache [Enabled]
Hyper-Threading Technology [Enabled]
Quick Power On Self Test [Enabled]
First Boot Device [Floppy]
Second Boot Device [CDROM]
Third Boot Device [HDD-0]
Boot Other Device [Enabled]
Swap Floppy Drive [Disabled]
Boot Up Floppy Seek [Enabled]
Boot Up NumLock Status [On]
Gate A20 Option [Fast]
Typematic Rate Setting [Disabled]
x Typematic Rate (Chars/Sec) 6
x Typematic Delay (Msec) 250
Security Option [Setup]
APIC Mode [Enabled]
MPS Version Control For OS [1.4]
Item Help
Menu Level ▸
Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area , BIOS will show a warning message on screen and alarm beep

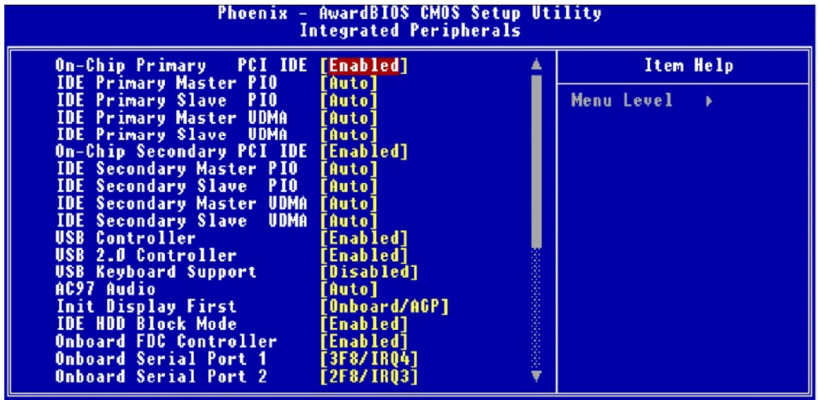
4.5.4. Advanced Chipset Features

If the ADVANCED CHIPSET FEATURES option is selected from the main menu, the screen below will appear. The following sample screen consists of the default values for the DisplayPac-OPR.


Phoenix - AwardBIOS CMOS Setup Utility
Advanced Chipset Features
DRAM Timing Selectable [By SPD]
CAS Latency Time [1.5]
Active to Precharge Delay [7]
DRAM RAS# to CAS# Delay [3]
DRAM RAS# Precharge [3]
Turbo Mode [Disabled]
Memory Frequency For [Auto]
System BIOS Cacheable [Enabled]
Video BIOS Cacheable [Disabled]
Memory Hole At 15M-16M [Disabled]
Delayed Transaction [Enabled]
** On-Chip VGA Setting **
On-Chip VGA [Enabled]
On-Chip Frame Buffer Size [8MB]
Boot Display [Auto]
Panel Number [2]
Item Help
Menu Level ▸

4.5.5. Integrated Peripherals

If the INTEGRATED PERIPHERALS option is selected from the main menu, the screen below will appear.


Phoenix - AwardBIOS CMOS Setup Utility
Integrated Peripherals
On-Chip Primary PCI IDE [Enabled]
IDE Primary Master PIO [Auto]
IDE Primary Slave PIO [Auto]
IDE Primary Master UDMA [Auto]
IDE Primary Slave UDMA [Auto]
On-Chip Secondary PCI IDE [Enabled]
IDE Secondary Master PIO [Auto]
IDE Secondary Slave PIO [Auto]
IDE Secondary Master UDMA [Auto]
IDE Secondary Slave UDMA [Auto]
USB Controller [Enabled]
USB 2.0 Controller [Enabled]
USB Keyboard Support [Disabled]
AC97 Audio [Auto]
Init Display First [Onboard/AGP]
IDE HDD Block Mode [Enabled]
Onboard FDC Controller [Enabled]
Onboard Serial Port 1 [3F8/IRQ4]
Onboard Serial Port 2 [2F8/IRQ3]
Item Help
Menu Level ▸

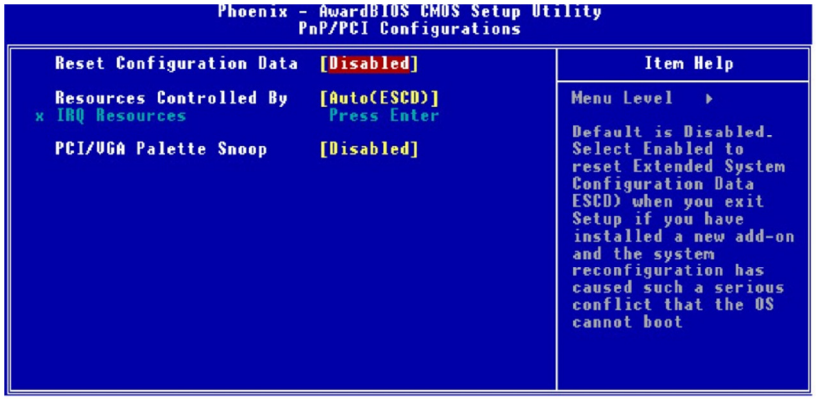
4.5.6. Power Management Setup

If the POWER MANAGEMENT SETUP option is selected from the main menu, the screen below will appear. The following sample screen consists of the default values for the DisplayPac-OPR.

Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup
ACPI Function [Enabled]
ACPI Suspend Type [S1(POS)]
Power Management [User Define]
Video Off Method [V/H SYNC+Blank]
Video Off In Suspend [Yes]
Suspend Mode [Disabled]
HDD Power Down [Disabled]
Soft-Off by PWR-BTTN [Delay 4 Sec.]
CPU THRM-Throttling [50.0%]
Wake-Up by PCI card [Enabled]
Power On by Ring [Enabled]
Wake Up On LAN [Enabled]
Resume by Alarm [Disabled]
x Date(of Month) Alarm 0
x Time(hh:mm:ss) Alarm 0 : 0 : 0
Item Help
Menu Level ▸

4.5.7. PnP/PCI Configuration

If the PnP/PCI CONFIGURATION option is selected, the following sample screen displays default values for the DisplayPac-OPR.

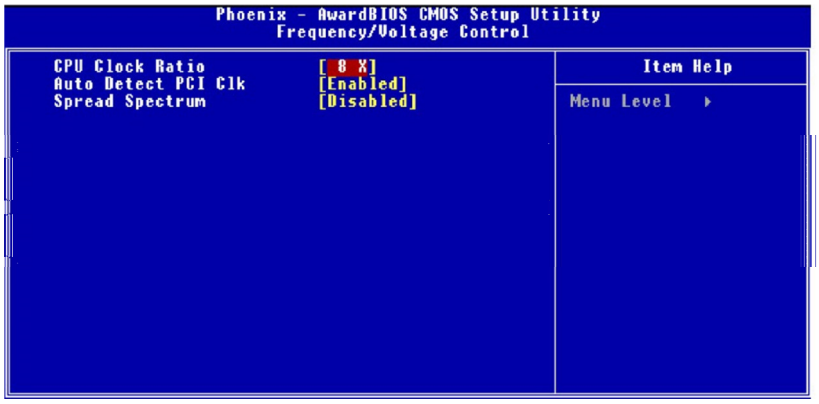

Phoenix - AwardBIOS CMOS Setup Utility
PnP/PCI Configurations
Reset Configuration Data [Disabled]
Resources Controlled By [Auto(ESCD)]
x IRQ Resources Press Enter
PCI/VGA Palette Snoop [Disabled]
Item Help
Menu Level ▸
Default is Disabled. Select Enabled to reset Extended System Configuration Data ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot

4.5.8. PC Health Status

PC HEALTH STATUS auto detects the system's temperature, voltage and fan speed.

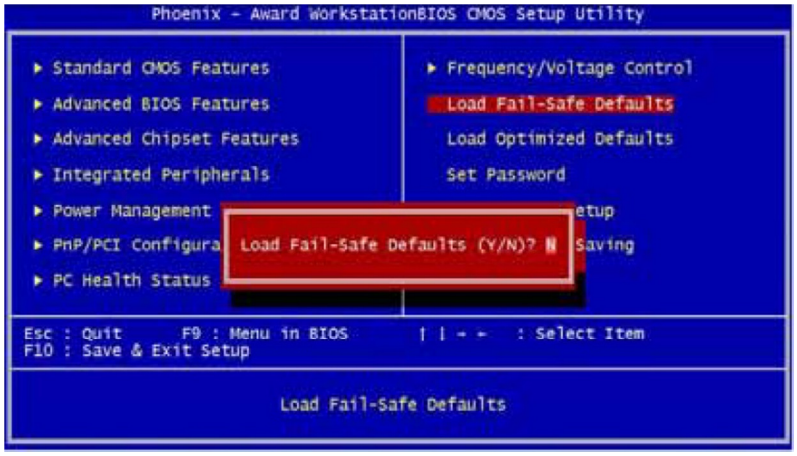
4.5.9. Frequency Voltage Control

This setup page is for the CPU, SDRAM and PCI frequency setting.



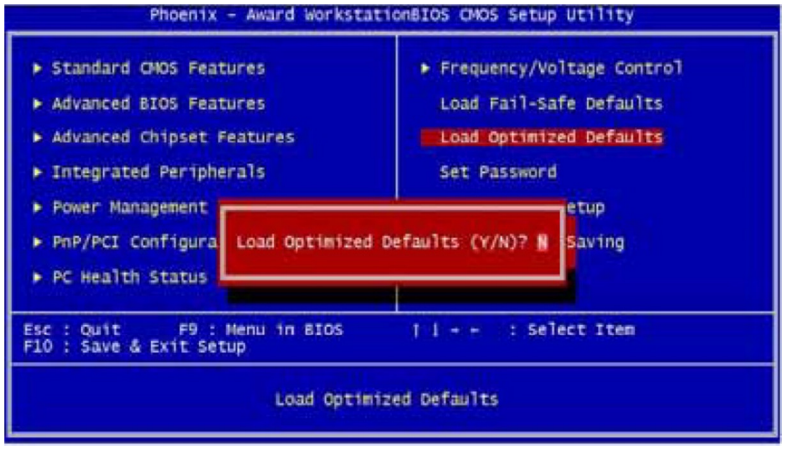
4.5.10. Load Fail-Safe Defaults

LOAD FAIL-SAFE DEFAULTS setup appropriate system parameters for the system to operate in its safest configuration.



4.5.11. Load Optimized Defaults

LOAD OPTIMIZED DEFAULTS indicate the most appropriate system parameters for the system for best performance configuration.



4.5.12. User Password

The USER PASSWORD is used to set the BIOS password. To change the password, select this option from the main menu and press <Enter>.

If the CMOS does not work properly or the USER PASSWORD option is selected for the first time, then a default password is stored in the ROM. The following message will appear on the screen:

Enter Password

Press <Enter>.

If the CMOS is working properly or the USER PASSWORD option is selected to change the default password, then the current password (the ROM password or the user-defined password) stored in the ROM needs to be entered first. The following message will appear on the screen:

Confirm Password

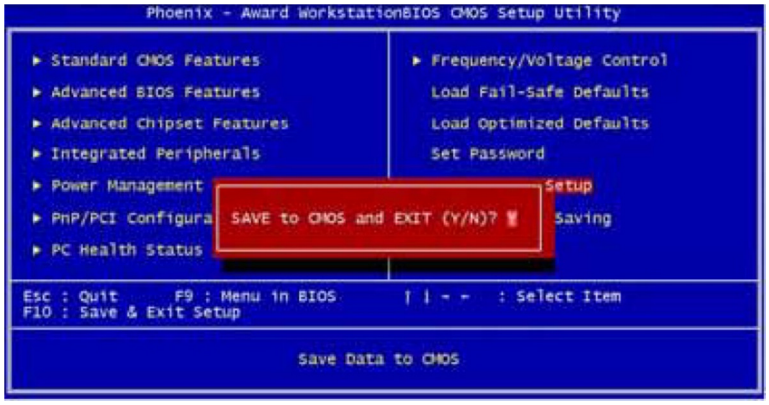
Enter the current password and press <Enter>.

After pressing <Enter>, then the new password (8 characters max) can be entered. The new password will be stored in the CMOS.

Please note that to enable this option; either Setup or System must be selected from the ADVANCED BIOS FEATURES first.

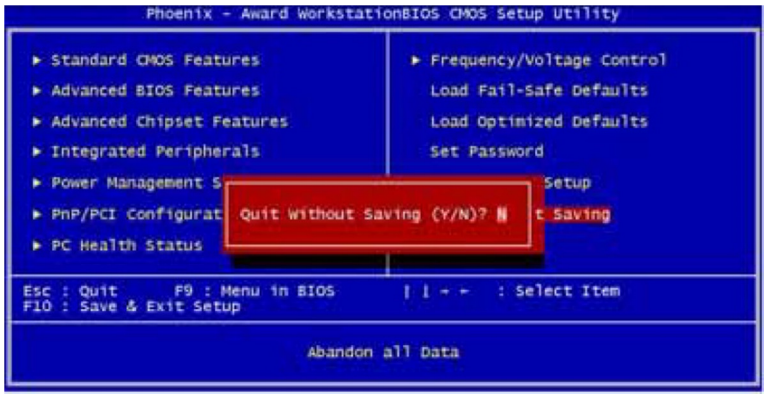
4.5.13. Save and Exit Setup

If the SAVE & EXIT SETUP option is selected, the values entered the setup utilities will be saved in the chipset's CMOS memory. When the system powers on, the CPU will check the CMOS to compare the CMOS data to see whether it matches the system.



4.5.14. Exit Without Saving

EXIT WITHOUT SAVING option will exit the Setup program without saving any new values. The CMOS will retain the old values.



5. Touch Screen (ELO)

5.1. Introduction

The DisplayPac-OPR may be installed with an ELO 5-wire resistive touch screen. The touch screen panel turns the flat-panel display into a dynamic graphical user interface (GUI) and data entry device.

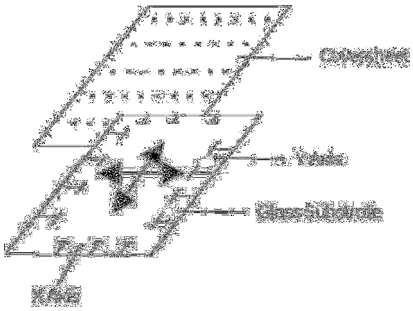
The touch screen represents a replacement to needing a keyboard and mouse to interface with the computer. People associate actions or functions with visual images better than a combination of keystrokes or button clicks. Using a touch panel is more entertaining for the operator and actually requires less brain activity than traditional control devices.

ELO's touch screens are the preferred solution for applications requiring unsurpassed performance, reliability, and clarity. Their durable, pure-glass construction delivers the ultimate in image clarity and light transmission, preserves color purity, and works even if scratched. With their stable, drift-free operation, the IntelliTouch touch screens guarantee a touch response that is on target. The IntelliTouch touch screens are the ideal solution for DisplayPac-OPR's, ticketing machines, gaming machines, light industrial, and office automation.

5.2. Construction

The built-in ELO five-wire resistive touch screen uses a glass panel with a uniform resistive coating. A thick polyester coversheet is tightly suspended over the top of the glass, separated by small, transparent insulating dots. The coversheet has a hard, durable coating on the outer side and a conductive coating on the inner side. When the screen is touched, the conductive coating makes electrical contact with the coating on the glass. The voltages produced are the analog representation of the position touched. The controller digitizes these voltages and transmits them to the computer for processing.

ELO five-wire technology utilizes the bottom substrate for both X and Y-axis measurements. The flexible coversheet acts only as a voltage-measuring probe. This means the touch screen will continue working properly even with non-uniformity in the cover sheet's conductive coating. The result is an accurate, durable and reliable touch screen that offers drift free operation. ELO screens are sealed against contamination and moisture. The coversheet is sealed to the glass substrate with an industrial grade caulk. This prevents fluid from gaining entry between the coversheet and glass. Also, ELO screens are not air vented, thereby preventing fluid ingress through an air vent.



5.3. Features

- Excellent image clarity with high light transmission
- Extremely fast and sensitive
- Excellent durability, resistant to deep scratches and abrasion
- Activated by a finger, gloved-hand or soft stylus
- Inherently stable, drift-free operation
- Dirt and splash sealing capability

5.4. Specifications

Input Method	Finger or gloved hand (cloth, leather, or rubber) activation
Positional Accuracy	Standard deviation of error is less than 0.080 in. (2 mm)
Controller	Serial (RS232)
Temperature	Operating: 0°C to 40°C Storage: -20°C to 60°C
Relative Humidity	Operating: 40°C at 90% RH, non-condensing
Altitude	Operating: 10,000 ft (3,048 m) Storage/transport: 50,000 ft (15,240 m)
Chemical Resistance	The touch active area of the touch screen is resistant to chemicals that do not affect glass, such as: acetone, toluene, methyl ethyl ketone, isopropyl alcohol, methyl alcohol, ethyl acetate, ammonia-based glass cleaners, gasoline, kerosene, vinegar
Agency Approvals	CE, FCC Class A
Seal-ability	Can be sealed to meet NEMA 3/3R/5/12/12K/13, IP64 standards
Surface Durability	Surface durability is that of glass, Mohs' hardness rating of 7
Expected Life	No known wear-out mechanism, as there are no layers, coatings, or moving parts.

5.5. ELO Touch Screen Software Driver

ELO touch screens configured with the DisplayPac-OPR will require software drivers to be installed to enable the touch screen functionality. The driver software scales the absolute coordinates received from the touch screen controller into translated screen coordinates, using the calibration points obtained with the video alignment program included with the driver software. The driver also performs other operations as directed by the application.

ELO provides driver programs for the DOS, Windows 3.1, Windows CE, Windows 95/98, Windows NT, Windows 2000, OS/2, and Macintosh operating systems. Additional drivers are also available. Additional operating systems are supported through outside sources. Refer to the ELO web site, www.elotouch.com, for details. If you cannot use an available driver, ELO can supply the touch screen related information you will need to write your own driver for any type of system, including UNIX workstations, real-time systems, and embedded systems.

5.6. Touch Screen Care and Cleaning

Only use soft non-abrasive lint free wipes with Isopropyl 99% to clean dirt or stains found on the touch panel. Always dampen the wipes and then clean the touch panel. Chemical liquids with strong acidic base will damage the touch screen and void the warranty.

5.7. Troubleshooting

If you experience operational difficulties with the touch screen system either during or after installation, the following sections will help you determine the source of the problem.

The first step in troubleshooting a touch screen system is to determine whether the problem is related to the display, software, or hardware:

- Do not confuse display problems with touch screen problems, as the two issues are unrelated.
- Software problems are determined by a basic hardware functionality test. If the hardware transmits touch coordinates correctly, then the problem is probably with the driver or application software.
- Hardware problems may be caused by the touch screen, controller, cabling, power supply, or by the integration of the touch screen components in the display. This appendix describes techniques for isolating the problem, including power-on diagnostics, status LED verification, and component swapping.

5.7.1. Display Problems

If you are experiencing display problems (such as no video, no horizontal or vertical synchronization, raster non-linearities, etc.), remember that the video function of the display and the ELO touch screen installed on the display are separate systems. Therefore, problems with the display should be treated as display problems, not touch screen problems Diagnostic procedures and possible corrections for display problems should be performed.

5.7.2. Software Troubleshooting

Before beginning software troubleshooting, verify that the touch screen hardware is working by running the COMDUMP program for serial controllers. If the touch screen is operating, then the problem may be with the driver software, the application software, or a conflict with other hardware or software. (The problem may also be due to incorrect touch screen video alignment). The general technique for troubleshooting software problems is to identify at what layer of software and associated hardware the problem exists. For example, if you have a Windows application, there are several layers of software and drivers. The problem could be with your application, Windows, MonitorMouse for Windows, MonitorMouse for DOS, the ELODEV driver, a conflict with another device, or the touch screen hardware. The best approach to software troubleshooting is to remove the layers of software one by one, testing each layer until the problem is isolated. Also try removing other hardware and software that may be conflicting with the touchscreen hardware and driver software.

5.7.3. Video Alignment Problems

If the touch screen is responding and the data is linear, but a touch does not activate the appropriate zone in the application, try video alignment. Use ELOCALIB under DOS or the Touch screen Control Panel with all versions of MonitorMouse. Improper video alignment may be indicated when the cursor does not move at the same pace as a sliding finger, or when it moves in the opposite direction. The cursor should always move in the same axis as your finger.

If you have a DOS application, erase any ELOGRAPH.CAL files and complete video alignment in the video mode used by your application. For example, you may have a VGA monitor with your application running in text mode, so complete video alignment in text mode rather than graphics mode.

5.7.4. Hardware Troubleshooting

Troubleshooting the touch screen hardware may require analysis of the touch screen, controller, cables, power supply, and the integration process. The best place to start is with the controller. Use the controller power-on diagnostics that are displayed when the ELO driver software is loaded to check for specific faults. Also, check whether the controller is transmitting any touch data. Use the COMDUMP program for serial controllers. The 2310B operates at 9600 baud, 8 data bits, 1 stop bit, and no parity.

No touch data: When no touch data is reported, the problem may be the touch screen, controller, or cabling. If the controller power-on diagnostics or diagnostic LED’s do not identify the problem, substitute individual system components if they are available.

6. MOUNTING INSTRUCTIONS

The DisplayPac-OPR is designed for mounting into walls, kiosks, controller cabinets of machine and factory applications. The mounting location should be prepared in advance for the required opening size for the computer unit according to the unit's dimensions. See the appropriate diagrams for the 12", 15", 17" or 19" DisplayPac-OPR.

6.1. Installation Notes

Due to the vast variety of installation options, here are some helpful installation notes:

- When installing into an enclosure, be sure to leave adequate space for ventilation and if necessary, adequate space for servicing through the rear and side panels must be provided.
- When the unit is in its mounting position, the ventilation openings must not be obstructed.
- To maximize effectiveness, position the DisplayPac-OPR to prevent the screen from causing light reflections.
- Measure the screen’s position to gauge the correct installation height, as the DisplayPac-OPR should be comfortably visible to users at all times.
- The DisplayPac-OPR should not be exposed to direct sunlight for any length of time.

6.2. Warnings

- To maximize the life of the DisplayPac-OPR, extreme environmental conditions should be avoided. The rear of the DisplayPac-OPR should be properly shielded from dust, humidity and heat.
- The clearance around the rear housing should be at least 100 mm in order to ensure adequate ventilation.
- The ventilation slots of the PC must not be covered.

7. RMA Request & Return Form

If you need to return one of our products for repair, please complete our RMA Request Form found on the support page of our website.

About Computer Dynamics

Computer Dynamics (A CIMTEC Automation Company) is a leading global provider of flat panel display solutions for a wide range of industries and applications. Our comprehensive product offering includes open-frame, enclosed, and environmentally sealed flat panel display systems in both computer and monitor configurations. Whether you're looking for one of our standard products or a fully custom solution, Computer Dynamics has the breadth, experience and support to deliver what you need. For more than 25 years, CIMTEC Automation has been providing automation solutions throughout the world that deliver value, performance, and innovation.

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